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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,057	02/25/2004	Paul M. Julich	GEH01 057	8932

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EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT	PAPER NUMBER
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3661

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/785,057	JULICH ET AL.	
	Examiner	Art Unit	
	Christine M. Behncke	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/21/06, 6/24/05, 6/7/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the preliminary amendment filed 5 April 2006, in which claims 1-37 were presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17, 21, 22, 24-27, 29, 31 and 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Morariu et al., US 2006/0074544.

(**Claim 17**) Morariu et al. discloses a method of scheduling the movement of plural trains along a network of track, wherein the network is divided into a plurality of planning areas, comprising: selecting the size of each planning area as a function of the amount of track and amount of proposed train traffic along the track in the planning area ([0015]); and selecting the boundaries as a function of the portions of the network of track which is common to adjacent planning areas ([0050]).

(**Claim 21**) Morariu et al. discloses a method of scheduling the movement of plural trains along a network of track, wherein the network comprises a plurality of track configurations and is divided into a plurality of planning areas, the improvement where

the boundaries of the planning areas are selected as a function of the configuration of the track that is common to adjacent planning areas ([0050], figure 9).

(Claim 22) Morariu et al. discloses a method of controlling a plurality of trains over a network of track using a computer program to develop a movement plan for the plurality of trains, and a human dispatcher to implement the movement plan, comprising: dividing the network into plural planning areas as a function of amount of track, each planning area being separated by boundary elements comprising portions of the network track which is common to adjacent planning areas ([0015], [0050], figure 9); developing a local movement plan for each planning area ([0051]); dividing each planning area into a plurality of dispatch areas ([0011]); and providing a portion of the local movement plan corresponding to each dispatch area to a human dispatcher to implement the portion of the local movement plan ([0011]).

(Claim 24) Morariu et al. further discloses comparing the local movement plans for planning areas having common boundary elements (figure 9).

(Claim 25) Morariu et al. further discloses resolving any conflicts in the common boundary elements by revising the local movement plans and, in the event of an unresolvable conflict, providing the unresolvable conflict to the human dispatcher ([0010], [0029], [0092]).

(Claim 26) Morariu et al. discloses a computer program product for use with a railway computer assisted train movement planner, wherein the railway network is divided into a plurality of planning areas ([0015]); each planning area having at least one boundary element of common track resources shared by an adjacent planning

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area, said computer program product comprising: a computer usable medium having computer readable program code modules embodied in said medium for planning the movement of trains between adjacent planning areas, said computer readable program code modules comprising: computer readable first program code module for causing a computer to generate a local movement plan for a planning area specifying the movement of trains into and out of the boundary elements associated with the planning area ([0050]); computer readable second program code module for causing a computer to evaluate the local movement plans for adjacent planning areas to detect conflicts at the respective boundary elements ([0029]); and computer readable third program code module for causing a computer to identify resolutions for the detected conflicts ([0113]).

(Claim 27) Morariu et al. discloses a computer program product for use with a railway computer assisted train movement planner, wherein the railway network is divided into a plurality of planning areas ([0015]); each planning area having at least one boundary element of common track resources shared by an adjacent planning areas, said computer program product comprising: a computer usable medium having computer readable program code modules embodied in said medium for resolving conflicts in the use of a boundary element ([0113]), said computer readable program code modules comprising: computer readable first program code module for causing a computer to generate a database of planned usage of the boundary element ([0050]); computer readable second program code module for causing a computer to identify scheduling conflicts in the database ([0113]); and computer readable third program

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code module for causing a computer to identify the trains involved in the conflict of the planned usage of the boundary element ([0064], [0113]).

(Claim 29) Morariu et al. discloses a method of planning the movement of plural trains in two adjacent planning areas, where the adjacent planning areas contain at least one boundary element having common track resource such that only one of the plural trains may use the boundary element at a time, comprising: determining the sequence of movement of the plural trains through the boundary element ([0050], [0111]-[0116]); and generating a local movement plan for each of said adjacent planning areas as a function of the determined sequence of movement of trains through the boundary element ([0115]).

(Claim 31) Morariu et al. discloses a computer program product for use with a railway computer assisted train movement planner, wherein the railway network is divided into a plurality of planning areas, each planning area having at least one boundary element of common track resources shared by an adjacent planning area, said computer program product comprising: a computer usable medium having computer readable program code modules embodied in said medium for resolving conflicts in the use of a boundary element ([0111]-[0118]), said computer readable program code modules comprising:

computer readable first program code module for causing a computer to determine the sequence of movement of the plural trains through the boundary element ([0120]); and

computer readable second program code module for causing a computer to generate a

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local movement plan for the adjacent planning areas as a function of the determined sequence of movement of trains through the boundary element ([0120]-[0122]).

(**Claim 34**) Morariu et al. further discloses developing a movement plan for each planning area ([0050]).

(**Claim 35**) Morariu et al. further discloses a computer readable fourth program code module for causing a computer to modify the respective local movement plans in accordance with the identified resolutions ([0120]).

(**Claim 36**) Morariu et al. further discloses a computer readable fourth program code module for causing a computer to plan a delay in the movement of at least one of the identified trains to resolve the identified conflict ([0122]).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 12-20, 22-25, 28-30, 32, 33 and 37 are rejected under 35

U.S.C. 102(b) as being anticipated by Crone, US 6,154,735.

Crone discloses a method of controlling the movement of plural trains along a network of track, comprising: dividing the network into plural planning areas (column 13, lines 60-67), with each pair of adjacent planning areas sharing at least one common boundary element on track common to said adjacent pair of planning areas (column 13, lines 60-67); developing a local movement plan for each planning area independently of

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the movement plan for other planning areas to control the movement of trains into and out of the selected boundary elements associated with the planning area (column 23, lines 1-14); and evaluating the local movement plans for adjacent planning areas to identify conflicts at the respective boundary element (column 23, lines 29-34). Crone further discloses monitoring the actual movement of the plural trains over the network of track (column 32, lines 43-65); periodically updating the local movement plans as a function of the actual movement of the trains (column 32, lines 43-65); and wherein developing a local movement plan for each planning area is performed asynchronously with the development of the movement plans of other areas (column 18, line 65-column 19, line 5). Crone further discloses dividing the network into planning areas including dividing the network as a function of the amount of proposed traffic for the track of each planning area (column 27, lines 9-31) and wherein the network of track comprises plural configurations of track and the step of dividing comprises selecting boundary elements as a function of the configuration of the track common to adjacent planning agents (column 28, line 48-column 29, line 3). Crone further discloses wherein each local plan is updated approximately hourly and covers eight hours (figure 2).

Crone discloses a method of providing a detailed train movement plan for controlling the travel of plural trains across a global planning area comprising: dividing the global planning area into plural local planning areas each including a portion of a network of tracks (column 23, lines 14-34), providing a daily schedule for the trains transiting the network (column 27, lines 21-64) including providing activity locations, time of arrival and departure (column 27, lines 54-64); providing a local movement plan

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for each of plural local movement areas (column 23, lines 29-34); comparing and resolving any conflicts in common boundaries of the local plans (column 28, lines 5-46).

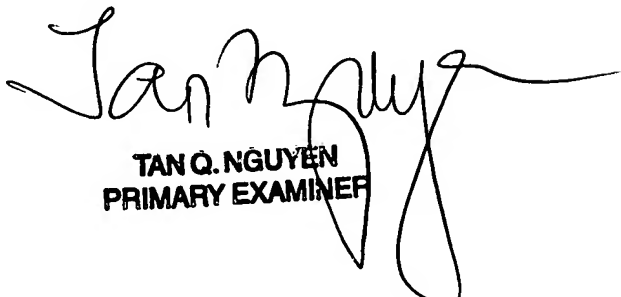
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB


TAN Q. NGUYEN
PRIMARY EXAMINER